



THE PORT AUTHORITY  
OF NY & NJ

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Engineering Department  
Design Division

The World Trade  
Center  
Electrical/HVAC  
Upgrade Program

Title  
TOWER ONE AND TOWER TWO  
LOW VOLTAGE SUBSTATIONS  
CONSTRUCTION AND  
INSTALLATION  
PLUMBING AND SPRINKLER  
LEGEND, DETAIL, SCHEMATIC  
AND SCHEDULE OF MATERIALS

No. Date Revision Approved

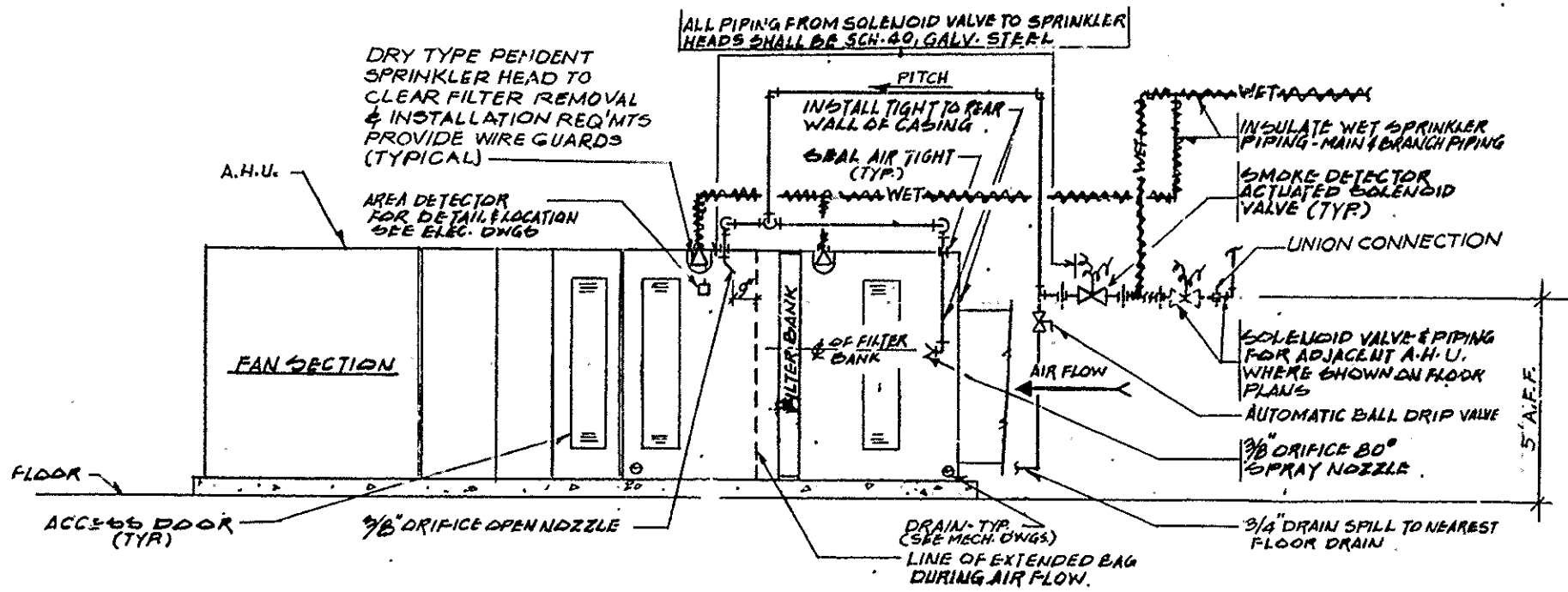
This drawing subject to conditions in contract.  
All inventions, ideas, designs and methods  
herein are reserved to Port Authority and may not  
be used without its written consent.

W.D. R.L. H.MED.  
Designed by Drawn by Checked by

Date 5/1/95 Scale AS NOTED

Contract Number Drawing Number

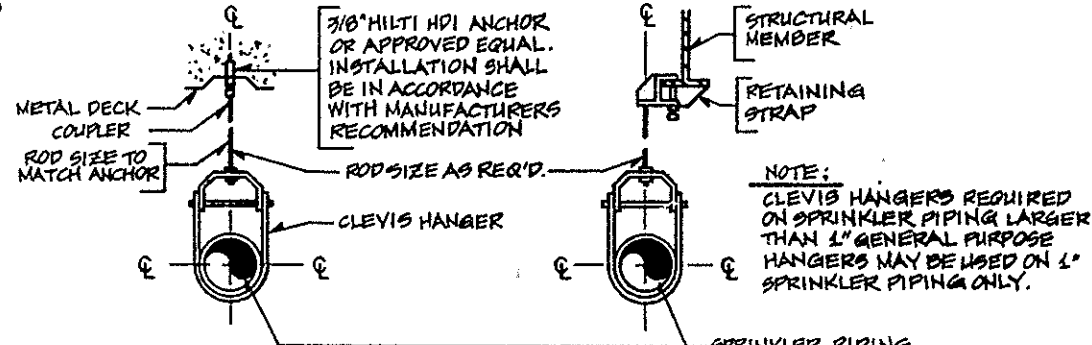
WTC-802.071 PSP-1



TYPICAL SCHEMATIC OF SPRINKLER PIPING AND HEADS FOR A.H.U. FILTERS  
NO SCALE

SPRINKLER STAGING NOTES (TYPICAL FOR EACH SUBSTATION)

1. COORDINATE WITH ALL TRADES - SEE CONTRACT DRAWINGS CS-1 & M-2.
2. EXISTING SPRINKLER SYSTEM SERVING A.H.U. BEING REMOVED SHALL REMAIN OPERATIONAL UNTIL A.H.U. IS DEACTIVATED.
3. AFTER A.H.U. IS SET IN PLACE ON UPPER FLOOR INSTALL SPRINKLER SYSTEM UP TO POINT OF CONNECTION TO EXISTING. DO NOT TIE-UP TO EXISTING PIPING UNTIL A.H.U. IS READY FOR ACTIVATION.
4. THE CONTRACTOR SHALL SUBMIT DETAILED CONSTRUCTION PHASING PLAN(S) COORDINATED WITH ALL TRADES FOR APPROVAL PRIOR TO STARTING THE WORK UNDER THIS CONTRACT.
5. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 48 HOURS IN ADVANCE BEFORE SHUTDOWNS OF EXISTING SYSTEMS BECOME NECESSARY.



TYPICAL HANGER DETAIL  
N.T.S.

SCHEDULE OF MATERIALS

1. PIPING

COLD WATER PIPING

COLD WATER PIPING SHALL BE TYPE "TP" THREADED COPPER PIPE, CONFORMING TO ASTM B 302 AND FITTINGS SHALL BE CAST BRONZE FOR BRAZING, CONFORMING TO ANSI B16.18.

SPRINKLER PIPING

SCHEDULE 10 BLACK STEEL PIPE IS NOT PERMITTED  
VICTAULIC SADDLE TYPE FITTINGS ARE NOT PERMITTED

2. SPRINKLER HEADS

SPRINKLERS IN THE AIR HANDLING UNITS SHALL BE AS FOLLOWS:  
OPEN NOZZLE: MODEL F-800, 3/8\"/>

3. SOLENOID VALVE

SOLENOID VALVE SHALL BE NORMALLY CLOSED 2-WAY, UL-LISTED AUTOMATIC SWITCH CO. SERIES B210 "GENERAL PURPOSE" VALVE OR APPROVED EQUAL. VALVE SHALL BE ENERGIZED BY ACTIVATION OF SMOKE DETECTORS. VALVE SHALL HAVE BRASS BODY WITH TEFLOON SEAT. THE COIL INSULATION SHALL BE HIGH TEMPERATURE, CLASS "H" INSULATION. THE ELECTRICAL RATINGS SHALL BE COMPARABLE WITH THE SMOKE DETECTOR SYSTEM.

LEGEND

- EXISTING PIPING TO BE REMOVED
- EXISTING PIPING TO REMAIN
- NEW PIPING
- WET SPRINKLER PIPING TO BE INSULATED
- EXISTING SPRINKLER PIPING TO BE REMOVED
- EXISTING SPRINKLER HEAD TO REMAIN
- NEW SPRAY NOZZLE
- NEW OPEN NOZZLE
- NEW DRY PENDENT SPRINKLER HEAD
- △ EXISTING SIDEWALL SPRINKLER HEAD
- ⊗ SOLENOID VALVE
- ⊗ FD FLOOR DRAIN
- ⊗ UNION
- ⊗ TRAP
- ⊗ HB HOSE BIBB
- COLD WATER PIPING
- ⊗ TRAP
- POINT OF CONNECTION BETWEEN NEW AND EXISTING PIPING
- C.O.D.P. CLEAN OUT DECK PLATE
- A.F.F. ABOVE FINISHED FLOOR
- W WASTE
- V VENT
- CW COLD WATER
- TYP TYPICAL
- A.H.U. AIR HANDLING UNIT

GENERAL NOTES:

1. INSTALL WALL HYDRANTS AT 1'-6" AND HOSE BIBBS AT 4'-8" ABOVE FINISH FLOOR.
2. HOLES IN WALLS AND FLOORS DUE TO PIPING AND OR FLOOR DRAIN REMOVALS SHALL BE PATCHED TO MATCH EXISTING

I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF ONE OF THE CONTRACT DRAWINGS CONSTITUTING A PART OF CONTRACT NO. WTC-802.071 IN THE FORM IN WHICH SAID DRAWINGS EXISTED AT THE TIME THE SAID CONTRACT WAS EXECUTED BY THE PARTIES.  
DATE 6/21/95 *William A. McKim* SPEC. WRITER  
DATE 8/15/95 *Peter K. Sweney* ENGINEER OF DESIGN